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ABSTRACT

This booklet provides a guide for the safe use and disposal of toxic chemicals found around the home. Toxicity ratings given to compounds are explained along with the amount needed for a probable fatal dose for a 150-pound person. Each category of hazardous waste is provided with typical examples of the toxicants, a toxicity rating, several disposal methods, and available alternatives to using the toxic compound. Materials covered in this booklet include: aerosols; air fresheners/deodorizers; antifreeze; art supplies; batteries; cleaners/detergents; degreasers; disinfectants; drain cleaners; fertilizers; fingernail polish/remover; handcleaners; home chemistry sets; mercury thermometers; moth balls/moth crystals; oven cleaners; paint products; pesticides; petroleum products; photographic chemicals; polishes/waxes; pool chemicals; smoke detectors; and wood preservatives. Included are addresses for federal, and state agencies in the state of Washington, and a listing of hazardous waste periodicals. (MVL)

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ED307159

Turning the Tide

ON TOXICS IN THE HOME

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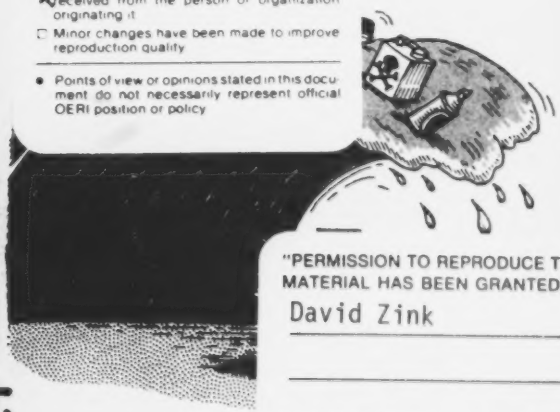

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SE 050 629

A Guide to Safer Alternatives and Proper Disposal of Hazardous Household Products

Section 1 -
Hazardous Waste In The Home

14.7 million pounds of hazardous waste per year! Does this sound like some huge industry that needs lessons on reducing wastes? Not this time. This is the estimated amount of hazardous wastes that we in Washington state put in our household garbage cans each year! Household hazardous wastes are also flushed down the drain, poured onto the ground and into storm drains. Even though the amount of hazardous waste coming from an individual home is small, these small amounts from many homes add up to make a big problem!

> *A substance is hazardous if it is: toxic, ignitable, corrosive, or reactive.*

We tend to think that if a household product is offered for sale then the product must be safe to use and to dispose of as we would any garbage. Unfortunately, many household products contain hazardous ingredients that can harm people and the environment. When these products are no longer needed or wanted, they become household hazardous wastes. Along with the household hazardous wastes comes a responsibility to dispose of the waste properly.

Proper disposal of household hazardous waste begins with identifying the waste as hazardous or as non-hazardous. Many household hazardous wastes have characteristics in common.

In fact, most household hazardous wastes fall into one of five major categories. Table 1.1 outlines the categories and some examples of household hazardous products that often end up as household hazardous wastes.

Table 1.1

Automotive Products
examples are motor oil, gasoline, batteries and antifreeze

Pesticides
examples are disinfectants, wood preservatives, DDT, slug bait, and fertilizer containing weed killer

Cleaning Products
examples are deodorizers, detergents, drain openers, and spot removers

Paint Products
examples are paints, lacquers, brush cleaners, and paint strippers

Other Products
examples are mercury batteries, photographic chemicals, and chemistry sets

- Be aware of the uses and dangers of products. If the directions are unclear, contact the manufacturer or dealer before buying the product. Watch for the words "**Danger**", "**Warning**", and "**Caution**". The signal word "**Danger**" indicates that the product is extremely flammable, corrosive, or highly toxic. The word "**Warning**" signals the next highest level of concern and "**Caution**" a lower level of concern. For example, products that are flammable, have harmful vapors, cause burns, or are absorbed through the skin are labelled with the "Warning" and "Caution" signal words.

- Never mix different products; explosive or poisonous chemical reactions can occur. For example, mixing ammonia with chlorine bleach will produce a highly toxic gas.

- Use products in a well-ventilated area (one in which there is an exhaust fan sized for the room and the windows are open) or, better yet, outdoors. Wear nitrile or other gloves suited to the job. Wear protective clothing.

- Keep unused products in their original containers with the labels intact for directions to follow and a list of contents to refer to in case of an accidental poisoning. Store products in safe places. Put "Mr. Yuk" stickers on containers of hazardous products and teach children to stay away from these products. Post the telephone number for the nearest Poison Control Center by your telephone. Call immediately if an exposure occurs.

- Take care to avoid accidental spills of household chemicals. If a spill does occur, contact your local fire department, health department or the Department of Ecology's Hazardous Substance Information Office for advice.
- Avoid using more of a product than the label recommends. Twice as much does not mean twice as good.
- Buy only what you need. If you don't have any products left over, you won't have to get rid of them.
- Stop and think before you dispose of any potentially hazardous waste. Would you want this substance in your drinking water or in the environment? If the answer is "NO," take the extra moments to find out the correct disposal method.

Section 3 - Guide To Product Ingredients, Proper Disposal and Safer Alternatives

This alphabetical guide provides information about the hazardous ingredients and properties of, proper disposal of, and safer alternatives to common household chemical products. Refer to Table 3.1 below for an interpretation of the toxicity ratings.

Table 3.1

	Toxicity Rating	*Probable Fatal Dose For A 150 Pound Person*
6	Super toxic	*A taste (less than 7 drops)*
5	Extremely toxic	*Between 7 drops and 1 teaspoonful*
4	Very toxic	*Between 1 teaspoonful and 1 ounce*
3	Moderately toxic	*Between 1 ounce and 1 pint*
2	Slightly toxic	*Between 1 pint and 1 quart*
1	Practically nontoxic	*More than 1 quart*

Source: Clinical Toxicology of Commercial Products. Robert E. Gosselin et al. Williams and Wilkins, Baltimore, MD. 1984.

The best currently available disposal options are listed in order of preference. You will see that a household hazardous waste collection day is frequently mentioned as one of the preferred options. If your county has yet to sponsor a household hazardous waste collection day, call the local health department/district to encourage your local officials to plan such an event.

After you've properly disposed of your household hazardous waste, check this guide for health and environment-friendly alternatives to try next time. Keep in mind that even these less-toxic alternatives may present hazards if not used properly.

Aerosols

Examples of toxicants: methylene chloride, organic solvents, o-phenylphenol

Toxicity rating: 2-4 IGNITABLE

Disposal: *(BEST)* In a well-ventilated area, use it up following label instructions or share with someone who will; turn the can upside down out-of-doors and hold down the button to dispel any remaining propellant; dispose of the empty can in the garbage.

(2nd BEST) Store in a safe place for a household hazardous waste collection day. **NEVER** burn aerosol cans or place them in a trash compactor.

Alternatives:
Use non-aerosol (pump type) products.

Air fresheners/deodorizers work by desensitizing your sense of smell, coating your nasal passages with an oily film or masking the unpleasant odor with another odor.

Air Fresheners/Deodorizers

Examples of toxicants: methylene chloride, naphthalene, p-dichlorobenzene, formaldehyde

Toxicity rating: 1-4

Disposal: *(BEST)* Following label instructions, use it up in a seldom-used room or share with someone who will; turn the can upside down out-of-doors and spray out any remaining propellant; dispose of the empty can in garbage.

(2nd BEST) Store in a safe place for a household hazardous waste collection day.

Alternatives:
For a room:

- Set out a dish of vinegar.
- Simmer cinnamon and cloves.
- Set out herbal bouquets in open dishes.
- Burn scented candles.

For a sink garbage disposal:

- Grind used lemons in the disposal.
- Pour baking soda in the disposal.

For the refrigerator:

- Leave an open box of baking soda in the refrigerator.

Three ounces of antifreeze are enough to kill an adult.

Antifreeze

Example of toxicant: ethylene glycol

Toxicity rating: 3

Disposal: A process whereby antifreeze can be recycled is being developed. As soon as the process becomes available in your area, begin to take your antifreeze in to be recycled. Currently, the recommended method for disposing of household quantities of antifreeze varies depending upon the locale. In most locations, it is preferable to flush small amounts of diluted antifreeze down an inside drain if your home is connected to a central sewer system. In a few locations, it is preferable to slowly pour diluted antifreeze over sandy soil away from trees and wells. Avoid puddles of antifreese as animals are attracted by the sweet smell and taste and can be easily poisoned. Call your local health

department to find out which method is recommended in your area. **NEVER** pour antifreeze in a ditch or down a storm drain.

Alternative:

None, unless you choose to drive a vehicle with an air-cooled engine.

Art supplies can contain materials banned from other products.

Art Supplies

Examples of toxicants: cadmium, uranium, cobalt, chromium, lead, hexane, toluol, formaldehyde, asbestos

Toxicity rating: 1-5 IGNITABLE

Disposal:

(BEST) Art supplies containing toxic ingredients should be used according to label instructions with good ventilation and only by adults; dispose of dry, empty containers in garbage.

(2nd BEST) Glazes that contain lead or uranium can be solidified by firing and then disposed of in garbage; other unused supplies should be held for a household hazardous waste collection day.

Alternatives:

- Use water-based inks, paints, and glues.

- Use supplies without lead, chromium, cadmium, or other toxic pigments.
- Choose water-based adhesives and glues (instead of epoxy, instant glues or solvent-based adhesives such as rubber cement).

Children are more susceptible to chemical poisoning because of their lower body weights and still-developing nervous systems. Extreme care should be exercised when purchasing and using art supplies.

Batteries
(car)

Examples of toxicants: sulfuric acid, lead

Toxicity rating: 3-4 CORROSIVE

Disposal:

(BEST) Trade in your old battery when purchasing a new one or turn it in to a local recycler. **NEVER** dispose of car batteries in the garbage.

Alternative:

None.

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Batteries
(household)

Examples of toxicants: mercury, cadmium, silver

Toxicity rating: 2-5 CORROSIVE

Disposal: *(BEST)* Encourage your local recycler to start accepting household batteries; turn in for recycling.

(2nd BEST) Wrap in a heavy bag and dispose of in garbage.

Alternatives:

- Use rechargeable batteries.

Indoor air pollution is a very real concern because 80% to 90% of our time tends to be spent inside. Indoor air may be 10 to 100 times as polluted as the outdoor air.

Bleaches
(chlorine)

Examples of toxicants: sodium hypochlorite, oxalic acid, sodium perborate, sodium peroxide

Toxicity rating:3

Disposal:*(BEST)* Use it up according to label instructions or share with someone who will; rinse empty container and dispose of container in the garbage or use it for art projects.

(2nd BEST) If you are unable to use up the bleach and cannot share it with a friend, small amounts can be flushed down an inside drain if your home is connected to a central sewer system. Avoid chlorine bleach if your home is connected to a septic tank. **NEVER** mix chlorine bleach with ammonia.

Alternatives:

- Reduce bleach in half and add 1/4 to 1/2 cup baking soda.
- Use oxygen bleaches or borax.
- Let the sun bleach your fabrics.

Chemistry Sets

Examples of toxicants:acids, bases, metals

Toxicity rating: 1-4 REACTIVE

Disposal:*(BEST)* Store in a safe place for a household hazardous waste collection day.

Alternative:
Choose less hazardous experiment sets.

The average person in the U.S. uses 40.6 pounds of household cleaners each year.

Cleaners/Detergents
(general household)

Examples of toxicants: ammonia, ethoxylated ethyl alcohol, phenols, sodium carbonate, hexachloroethane

Toxicity rating: 2-4

Disposal: *(BEST)* Use it up according to label instructions or share with someone who will; rinse and dispose of the empty container in the garbage.

(2nd BEST) Small amounts of liquid cleaners can be flushed down an inside drain. Small amounts of powder/solid cleaners can be put in a heavy bag and disposed of in garbage.

(3rd BEST) Hold for a household hazardous waste collection day.

Alternatives:

For general cleaning:

- Use a mixture of 1/2 cup vinegar and 1 quart of warm water.
- Use soap and water, baking soda, lemon juice, or salt.

For washing dishes by hand:

- Use 1/2 cup of baking soda with liquid detergent to help cut grease and food.

For cleaning windows:

- Combine 2 tablespoons of vinegar with 1 quart warm water; store the mixture in a spray bottle.

For laundry:

- Use borax, baking soda, washing soda, or soap for washing.
- Use vinegar to prevent colors from fading.
- Add 1/4 cup of vinegar to the final rinse to soften the water and the clothes.

Cleaners/Polishes
(automotive)

Examples of toxicants: alkyl aryl sodium sulfonate, petroleum naphthas

Toxicity rating: 3

Disposal: *(BEST)* Use it up according to label instructions or share with someone who will; dispose of the empty container in the garbage can.

(2nd BEST) Hold for a household hazardous waste collection day.

Alternatives:

For automobile wash:

- Use 2 tablespoons of mild dish detergent or 1/4 cup soap flakes plus 2 gallons of warm water.

For cleaning chrome:

- Apply a paste of baking soda and water to the chrome surface with a sponge; let the paste set for a few minutes, then rinse and wipe dry with a soft cloth.

For cleaning tires:

- Scrub the tires with a brush using mild dish detergent and baking soda.

For windows and windshields:

- If your windshield has a build-up of dead bugs, combine 1/2 cup whiting (can be purchased at hardware and paint stores), 1/4 cup baking soda, 1 cup fuller's earth (can be purchased at drugstores or building supply centers) and water to make a paste; apply the mixture to the glass with a sponge and polish with a dry, lint-free cloth.
- Combine 2 tablespoons of white vinegar or lemon juice with 3 cups of water; store in a spray bottle.

Methylene chloride is known to cause cancer in animals and is suspected of causing cancer in humans. A 1984 study in western Washington found that about two-thirds of the methylene chloride found in sampled wastewater was from residential sources.

Degreasers
(automotive and garage)

Examples of toxicants: toluene, xylene, methylene chloride, carbon tetrachloride, perchloroethylene

Toxicity rating: 3-4

Disposal: *(BEST)* Use it up according to label instructions in a well-ventilated area; after letting container air out (out-of-doors), dispose of the empty container in garbage.

(2nd BEST) Give to a service station, auto shop class or neighbor who will use.

(3rd BEST) Hold for a household hazardous waste collection day. **NEVER** dispose of down the drain or in garbage.

Alternatives:
Check product ingredients for the least toxic formulations.

For grease spots on the garage floor:

- Sprinkle fuller's earth (can be purchased at drugstores and building supply centers) or cornmeal on the spot; after allowing it to sit for several hours, sweep into a bag; dispose of in the garbage.

For battery terminals:

- Use a baking soda and water paste to clean away corrosion; after reconnecting the clamps to the terminals, wipe with petroleum jelly to prevent future corrosion.

A well-ventilated area is (1) outdoors or (2) a room with the windows open and an operating exhaust fan sized for the room.

Disinfectants

Examples of toxicants: formaldehyde, phenols, sodium borate, aromatic hydrocarbon solvents

Toxicity rating: 3-4

Disposal: *(BEST)* Use it up according to label instructions or share with someone who will; place empty container in the garbage.

(2nd BEST) Rinse small amounts of diluted disinfectants down an inside drain if your home is connected to a central sewer system; place empty container in the garbage. If your home has a septic system, hold the disinfectant for a household hazardous waste collection day.

Alternatives:

- Pour 2 cups of boiling water over thyme leaves, cover, let steep 10 minutes, strain, let cool.
- Use 1/2 cup borax plus 1 gallon of hot water.

Drain cleaners

Examples of toxicants: sodium hypochlorite, trichlorobenzene, potassium hydroxide

Toxicity rating: 3-4 CORROSIVE

Disposal: *(BEST)* Use it up according to label instructions or share with someone who will; dispose of the empty container in garbage.

(2nd BEST) Dispose of small amounts down an inside drain with liberal amounts of water.

Alternatives:

- Pour 1/2 cup of borax in the drain and follow with 2 cups of boiling water.

- Use a plunger followed by a handful of baking soda and 1/2 cup of vinegar; cover drain and let sit 15 minutes; rinse with 2 quarts of boiling water.

Chemical fertilizers give the soil a fast-acting, short-term boost which may, with extended use, deplete the soil's growing capacity.

Fertilizers
(chemical)

Examples of toxicants: ammonium sulfate, potassium chloride, ammonium phosphate, nitrogen, pesticides

Toxicity rating: 1-5

Disposal: *(BEST)* Use it up according to label instructions or share with someone who will; dispose of the empty bag in garbage.

(2nd BEST) If the fertilizer doesn't contain pesticides, put container in a heavy bag, tie, and dispose of in garbage. If the fertilizer contains pesticides, hold for a household hazardous waste collection day.

Alternatives:

- Use your yard wastes to make compost.
- Put your kitchen scraps in a worm bin to make vermicompost.

- Use peat moss, blood meal, fish meal and steer manure singly or in various combinations.

Fingernail Polish/Remover

Examples of toxicants: acetone, ethyl acetate, phenol, toluene, xylene, formaldehyde resin, tricresyl phosphate

Toxicity rating: 3-4 IGNITABLE

Disposal: *(BEST)* Use it up according to label instructions in a well-ventilated area; dispose of empty, dry bottle in garbage.

(2nd BEST) Let contents evaporate outside in a place that children and pets cannot reach; when contents have evaporated, replace cap and place in garbage.

Alternatives:
Leave your nails unpolished.

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Dumping gasoline into sewers, storm drains, or any body of water is illegal in Washington State (RCW 90.48.080).

Gasoline

Examples of toxicants: petroleum hydrocarbons, tetraethyl lead, benzene

Toxicity rating: 3-4 IGNITABLE

Disposal: *(BEST)* Use it up as an engine fuel. Gasoline can sometimes be run through a lawnmower even if it is old.

(2nd BEST) If unusable, store the gasoline in a safe place for a household hazardous waste collection day. **NEVER** use gasoline as a cleaner.

Alternatives:
None, if you choose to drive a vehicle. You can limit your use of gasoline by choosing a fuel-efficient vehicle; maintaining it properly; conserving fuel by walking, bicycling, carpooling, and planning trips efficiently; and not allowing gasoline to become contaminated or old.

Gasoline is probably the most dangerous product commonly found around the house because of its flammability and toxicity. If you must store gasoline, use only containers made for the purpose and always leave an air space for expansion.

Handcleaners
(mechanic/painter)

Examples of toxicants: In mechanic handcleaners: petroleum distillates, butylated hydroxytoluene, methionine

In painter handcleaners: mineral spirits, propylene glycol, p-chloro-m-xylenol

Toxicity rating: 2-4

Disposal: *(BEST)* Use it up according to label instructions; wash hands with soap and warm water after each application; dispose of the empty container in garbage.

(2nd BEST) Give it to a service station or shop class to use.

(3rd BEST) Hold for a household hazardous waste collection day if the handcleaner contains solvents.

Alternatives:

- Keep your hands clean by wearing nitrile or other gloves suited to the job.
- Massage hands with a few drops of baby oil, margarine or butter; wipe dry; wash with soap and water.

Mothballs/Moth Crystals

Examples of toxicants: naphthalene, methylene chloride, p-dichlorobenzene

Toxicity rating: 3-4

Disposal: *(BEST)* Use them up according to label instructions in a seldom-used room; safely store any remaining mothballs/moth crystals in a heavy bag for a household hazardous waste collection day.

Alternatives:

- Place cedar blocks enclosed in cotton sachets in your closets and drawers. An occasional light sanding of the cedar will renew the scent.
- Put dried tansy, dried lavender, or peppercorns in your closets and drawers.
- Keep only clean clothes in your closets and drawers.

The U.S. Environmental Protection Agency has issued a chemical advisory warning those who handle motor oil to minimize skin contact with used oil. Waste oil has been found to cause cancer in laboratory animals.

Motor Oil
(Used)

Examples of toxicants: lead, zinc, petroleum hydrocarbons, polyaromatic hydrocarbons

Toxicity rating: 3-4 IGNITABLE

Disposal: Take to a nearby oil recycling station. Call the Recycling Hotline (1-800-RECYCLE) for the station closest to you. **NEVER** pour motor oil on the ground, in a ditch, down a storm drain or down an inside drain.

Alternatives:

Ask for re-refined motor oil. The re-refining process improves the oil's quality. Asking for re-refined motor oil will improve the market for waste oil, will improve waste oil recycling opportunities, and will help decrease reliance on virgin oil products.

One quart of motor oil can contaminate 250,000 gallons of water - more water than 30 people drink in their lifetimes!

Oven Cleaners

Examples of toxicants: methylene chloride, petroleum distillates, glycol ethers, sodium hydroxide

Toxicity rating: 2-4 CORROSIVE

Disposal: *(BEST)* Use it up following label directions or share with someone who will. If the oven cleaner is in an aerosol can, dispel any remaining propellants by turning the can upside down (out-of-doors) and pushing button; dispose of the empty can in garbage.

(2nd BEST) Hold for a household hazardous waste collection day.

Alternatives:

- Pour lots of salt on fresh spills in the oven and scrap them off after the oven cools.
- Use a baking soda, salt, and water paste.
- Mix 2 tablespoons liquid soap, 2 teaspoons borax, and warm water; leave on oven for 20 minutes; scrub with steel wool and nonchlorine scouring powder.
- Rub very dirty areas with a stick of pumice.
- Use a non-aerosol oven cleaner that does not contain lye.

A 1987 study, sponsored by the U. S. Environmental Protection Agency, found that 27% to 43% of all household hazardous wastes disposed of in landfills were paint products.

Paint

(oil based/stain/spray)

Examples of toxicants: kerosene, white lead (in old paint), mineral spirits, toluene, xylene, methylene chloride

Toxicity rating: 3-4 IGNITABLE

Disposal: *(BEST)* If it doesn't contain lead, use it up in a well-ventilated area or give to someone who will (such as a theater or non-profit group). After letting residual paint dry up out-of-doors, wrap the empty container in newspaper and dispose of in garbage.

(2nd BEST) If the paint does not contain lead, paint it out on cardboard or let small amounts (less than 1 pint) evaporate out-of-doors in an open, yet protected area. When the paint is hard, wrap the container in newspaper and dispose of in garbage.

(3rd BEST or BEST IF CONTAINS LEAD) Hold for a household hazardous waste collection day.

Alternatives:

- Choose water-based over oil-based paint.

- Determine the amount of paint that you need for the job and buy only that amount.

Look for these key words on the paint can to help you determine whether the paint is water-based or oil-based:

water-based:
- *"clean up with soap and water"*
- *"latex"*

oil-based:
- *"clean up with mineral spirits"*
- *"contains petroleum distillate"*
- *"combustable" "keep from heat and flame"*
- *"harmful or fatal if swallowed"*

Paint
(water based)

Examples of toxicants: mercury, lead (in old paint), pentachlorophenol, chlorinated phenols, ethylene glycol

Toxicity rating: 2 (lead = 3-4)

Disposal: *(BEST)* If the paint doesn't contain lead (generally if less than 15 years old), use it up or share with someone who will (such as a theater or

non-profit group). After letting residual paint dry up out-of-doors, wrap the container in newspaper and dispose of in garbage.

(2nd BEST) If the paint does not contain lead, paint it out on cardboard, let it evaporate in the can, or pour it out in a large box lined with plastic and containing shredded newspaper. After the paint is hard, wrap the container and box in newspaper and dispose of in garbage.

(3rd BEST or BEST IF CONTAINS LEAD): Hold for a household hazardous waste collection day.

Alternatives:

- Buy only what you need and use it up while it's still good.
- Use whitewash (a combination of hydrated lime, water and salt) for fences, barns, and basements.

Paint Strippers

Examples of toxicants: methylene chloride, benzene, phenols, toluene, acetone, carbon tetrachloride

Toxicity rating: 3-4 IGNITABLE

Disposal: *(BEST)* Read the label instructions before starting the job. Then, wearing an organic vapor respirator and gloves, use it up in a well-venti-

lated area or share with someone who will. Let the empty container air out (out-of-doors) before disposing of it in the garbage can.

(2nd BEST) Hold for a household hazardous waste collection day.

Alternatives:
Wearing goggles and a mask, use a hook scraper, push scraper, rasp, abrasive block or sandpaper to sand off the paint.

Post the Poison Control Center's telephone number near your phone for first aid advice.

Paint Thinners

Examples of toxicants: toluene, xylene, acetone, naphthol, methanol

Toxicity rating: 2-3 IGNITABLE

Disposal: *(BEST)* Let paint particles settle out then filter off the clear thinner and re-use. Let the sludge dry out; wrap in newspaper; and dispose of in garbage.

(2nd BEST) Let very small amounts (less than 1 cup) evaporate out-of-doors in a protected area. Larger amounts should be held for a household hazardous waste collection day.

Alternatives:

- Avoid paint thinners by choosing water-based paints.
- To clean your hands of paint or grease, massage with a few drops of baby oil, margarine, or butter; wipe dry; then wash with soap and water.

Be wary of "inert" ingredients in pesticide formulations. Highly toxic chemicals such as benzene, carbon tetrachloride, formaldehyde, methylene chloride, and pentachlorophenol are sometimes among those "inerts".

Pesticides

DO NOT USE THESE BANNED PESTICIDES:

Aldrin, Chlordane, DBCP, DDT, Dieldrin, Heptachlor, Lindane, Kepone, Mirex, Silvex, 2,4,5-T, Toxaphene

MOST COMMONLY USED PESTICIDES:

Dichlorvos, Resmethrin, Pyrethrin, Carbaryl, Diazinon, Baygon, Malathion, Metaldehyde

Toxicity rating 3-5 (for most commonly used pesticides)

Disposal: *(BEST)* If it is not a banned product, use it up according to label instructions. Put the completely empty paper or cardboard container in the garbage. Rinse plastic and glass containers with water and use the water as full-strength pesticide; repeat this process two more times then dispose of the empty container.

(2nd BEST) If not a banned product, try to find someone else who will use the product correctly.

(3rd BEST or BEST IF A BANNED PRODUCT) Hold for a household hazardous waste collection day or (if banned) try to return to the manufacturer or retailer.

Alternatives:

In general, keep home and yard clear of food sources and decaying plants; take advantage of plants such as the onion, garlic, and marigold to ward off unwanted garden pests; keep your plants healthy by fertilizing, cultivating, and watering them; rotate your garden plot; and pick off insects by hand.

For ants:

- (inside the house) Pour a line of cream of tartar, red chili powder, paprika or dried peppermint at point of entry.
- (outside the house) Plant onions and beans close together to repel ants.

For caterpillar pests (loopers, leafrollers, and cutworms):

- Apply Bacillus thuringiensis (a commercially available bacteria) to these pests when they are small.

For fleas on pets:

- Gradually introduce brewers yeast or vitamin B into your pet's diet as a preventative measure.
- Put fennel, rosemary, red cedar shavings, sassafras, pennyroyal, or eucalyptus leaves under and around your pet's bed.

For insects on plants:

- Gently sponge or spray plant leaves with soapy water, then rinse.
- Mix 6 cloves, 1 crushed garlic, 1 minced onion, 1 tablespoon pure soap and 1 gallon hot water; let sit for 1 or 2 days; strain before using.
- Wash insects from plants with a strong hosing, preferably in the morning.

For moles:

- Plant the herb "mole plant" to repel them.

For mosquitoes:

- To repel them, burn citronella candles; grow basil plants; or rub on citronella oil, mint, or pennyroyal.

For nematodes:

- Plant marigolds, as they give off a chemical that repels them.

For roaches:

- Set out dishes of chopped bay leaves and cucumber skins.
- Set out dishes containing equal parts of baking soda and powdered sugar.
- Set out dishes containing equal parts of oatmeal flour and plaster of paris.

For slugs and snails:

- Lay shallow dishes of beer or vinegar at soil level.
- Plant onions and marigolds to repel them.

For termites:

- Preventative measures include keeping house free of decaying wood and debris; repairing leaky fixtures; and using non-wood building materials, bait blocks, or termite barriers.

For weeds:

- Pull weeds by hand when they first begin to appear in the spring.
- Cover garden with garden fabric or plastic in the fall to prevent weed germination.

If you feel you must use a commercial pesticide, do not over-water after use as the pesticide can run off with the excess water into a nearby stream or storm drain.

Photographic chemicals

Examples of toxicants: boric acid, sodium thiocyanate, ammonium hydroxide, trichloroethane, silver, hydrochloric acid

Toxicity rating: 2-4 (Intensifiers and reducers can contain materials with toxicity ratings of 6) CORROSIVE

Disposal: If your home is connected to a sewage treatment plant, check with the plant manager for instructions. Generally, small amounts of the liquid from black and white film developing can be flushed down the toilet or sink if the home is connected to a central sewage treatment plant. If your home has a septic tank or you are developing color film, hold your waste for a household hazardous waste collection day.

Alternatives:

None, although equipment is commercially available for reclaiming the silver from photographic chemicals.

Always follow label directions.

Polishes/Waxes
(furniture)

Examples of toxicants: petroleum distillates, methylene chloride, 1,1,1-trichloroethane, phenol, naphthas

Toxicity rating: 3 IGNITABLE

Disposal: *(BEST)* Use it up according to label instructions in a well-ventilated area or share with someone who will; dispose of the empty container in garbage.

(2nd BEST) Hold for a household hazardous waste collection day.

Alternatives:

- Polish with a mixture of 1 tablespoon lemon oil and 1 pint mineral oil.
- Rub the wood with crushed raw nuts for an oily polish.
- Rub toothpaste on wood furniture to remove water marks; polish with a soft cloth.
- Polish with a mixture of 3 parts olive oil and 1 part white vinegar.

Households in Washington state put an estimated 14,722,000 pounds of hazardous wastes in the garbage every year!

Polishes
(metal)

Examples of toxicants: tripolyphosphate, oxalic acid, phenolic derivatives, sulfuric acid, phosphoric acid

Toxicity rating: 3 CORROSIVE

Disposal: *(BEST)* Use it up according to label instructions or share with someone who will; rinse empty container and dispose of it in garbage.

(2nd BEST) Very small amounts (less than 1 cup) of polish containing phosphoric acid can be washed down a sink or toilet with water; rinse the empty container and dispose of it in garbage. In general, hold unusable metal polishes for a household hazardous waste collection day.

Alternatives:

For silver:

- Soak silver in 1 quart warm water containing 1 tablespoon baking soda, 1 tablespoon salt, and a piece of aluminum foil.

For copper and brass:

- Clean with a lemon juice and salt paste.
- Clean with tomato catsup.

For chrome:

- Wipe with apple cider vinegar; rinse with water and dry.
- Rub with a lemon peel; rinse with water and dry.

For coffeepot stains:

- Remove stains with vinegar.

For stainless steel:

- Use baking soda or mineral oil for shining.
- Use vinegar to remove spots.

Be cautious using old products as they may contain chemicals that are now banned.

Polishes
(shoe)

Examples of toxicants: trichloroethylene, methyl chloride, nitrobenzene, mineral spirits

Toxicity rating: 2-4 IGNITABLE

Disposal: *(BEST)* Use it up according to label instructions in a well-ventilated area or share with someone who will; let the empty container air out before disposing of it in the garbage.

(2nd BEST) Hold for a household hazardous waste collection day.

Alternatives:

- Polish with a banana peel, then buff.
- Avoid products containing the toxicants listed above.

Pool Chemicals

Example of toxicants: dichloro-s-tri-azinetrione, muriatic acid, algicide

Toxicity rating: 2-3

Disposal: *(BEST)* Use it up according to directions; put empty container in garbage.

(2nd BEST) If the home is connected to a central sewer system, flush small amounts down an inside drain with liberal amounts of water. If the home has a septic tank, hold for a household hazardous waste collection day.

Alternatives:

Use chlorine sparingly.

For substances regulated by the U.S. Consumer Product Safety Commission: any manufacturer, distributor, or retailer who sells a banned product (or one that is banned after the sale) is required to repurchase the product when it is returned.

Rug/Carpet Cleaners

Examples of toxicants: trichloroethylene, methylene chloride, sodium hypochlorite

Toxicity rating: 2-4

Disposal: *(BEST)* Use it up according to label instructions or share with someone who will; dispose of the empty container in garbage.

(2nd BEST) Hold for a household hazardous waste collection day.

Alternatives:

For general cleaning:

- Use a soap-based, non-aerosol rug shampoo; vacuum when dry.

For spills:

- Sprinkle cornmeal or cornstarch on rug; let sit for at least 30 minutes; vacuum.
- Use club soda immediately.
- Rub a thick layer of salt on red wine spills; sponge up salt after it has absorbed the spill.

Scouring Powder

Example of toxicant: chlorine

Toxicity rating: 2-3 CORROSIVE

Disposal: *(BEST)* Use it up or share with someone who will; dispose of the empty container in garbage.

(2nd BEST) Put a small amount in a heavy bag and dispose of in garbage.

Alternatives:

Use baking soda.

Use a non-chlorinated scouring powder.

Combine 1/4 cup soap flakes, 2 teaspoons borax, $1\frac{1}{2}$ cups boiling water, and 1/4 cup whiting (available at hardware and paint stores); store in a squeeze bottle.

Smoke detectors
(ionizing type)

Hazard: Radioactive material is contained in some battery-powered (ionization-type) smoke detectors.

Disposal: (BEST) Send back to manufacturer.

(2nd BEST) Wrap in newspaper or in two plastic bags and dispose of in garbage.

Alternatives:

Choose photoelectric type detectors.

Stain/Spot Removers

Examples of toxicants: perchloroethylene, naphtha, petroleum distillates

Toxicity rating: 2-4 IGNITABLE

Disposal: *(BEST)* Use it up according to label instructions in a well-ventilated area or share with someone who will; let container air out (out-of-doors) before disposing of in garbage.

(2nd BEST) Hold for a household hazardous waste collection day.

Alternatives:

- Rub the stain with a cornstarch paste; brush off when dry.
- Apply a paste of baking soda and water to the stain; allow to set before rubbing clean and rinsing.
- Use cold water, club soda, lemon juice, salt, or, as a last option, 70% isopropyl alcohol.

For mildew:

- Use vinegar.

For light wood stains:

- Use toothpaste for grease and oil stains:
- Rub french chalk or white chalk into the stain before laundering.

For rust:

- Use a mixture of lemon juice and salt.

Thermometer
(fever)

Example of toxicant: metallic mercury

Disposal: In case of breakage, use a wooden toothpick or piece of cardboard to push mercury droplets together and into a covered container.

After the mercury has been collected:

(BEST) Give the mercury to your family dentist to be recycled.

(2nd BEST) Hold for a household hazardous waste collection day.

Alternative:
Choose an electronic thermometer.

Toilet Bowl Cleaners

Examples of toxicants: sodium hydroxide, sodium acid sulfate, sodium acid oxalate, hydrochloric acid, chlorinated phenols

Toxicity rating: 3-4 CORROSIVE

Disposal: *(BEST)* Use it up according to directions or share with someone who will; dispose of the empty container in garbage.

(2nd BEST) Flush small amounts down the toilet with plenty of water.

Alternatives:

- Clean often with baking soda or vinegar.
- Make a paste of borax and lemon juice; spread the paste on the toilet and let set for at least 2 hours; scrub with a long-handled brush; flush.

Manufacturers of consumer products are not required to tell the public whether or not their products contain chemicals associated with long-term health effects.

Transmission Fluid

Example of toxicants: petroleum distillates

Toxicity rating: 2 IGNITABLE

Disposal: Mix with waste motor oil and recycle. Call the Recycling Hotline (1-800-RECYCLE) for the waste oil recycling station nearest you.

Alternative:
None if you drive an automobile.

Tub and Tile Cleaner

Examples of toxicants: phenol, glycol ethers, phosphoric acid

Toxicity rating: 2-3

Disposal: *(BEST)* Use it up according to label instructions with good ventilation or share with someone who will; dispose of the empty container in garbage.

(2nd BEST) Small amounts can be washed down an inside drain with plenty of water. If you have more than a small quantity of unusable product, hold for a household hazardous waste collection day.

Alternatives:

Combine 1/4 cup baking soda, 1/2 cup white vinegar, and 1 gallon warm water; stir until baking soda dissolves.

For cleaning grout:

- Combine 3 cups of baking soda and 1 cup warm water; scrub into the grout and rinse well with clean water.

For removing stains from porcelain:

- Make a paste using 3 tablespoons borax and 1 tablespoon of lemon juice (or 3 tablespoons of cream of tartar and 1 tablespoon of hydrogen peroxide); scrub stain with a nylon pad and rinse with water.

For mildew:

- Scrub with a paste of lemon juice and salt (or white vinegar and salt).

Wood Preservatives

PRODUCTS BANNED FROM BEING SOLD:

pentachlorophenol, creosote, arsenic-containing wood treatments

Examples of toxicants: copper oleate, naphthenic acid, mineral spirits

Toxicity rating: 3-4 IGNITABLE

Disposal: *(BEST)* Use up non-banned wood preservatives according to label instructions; after letting the empty can air out (out-of-doors), dispose of it in the garbage.

(2nd BEST) Share non-banned wood preservatives with a neighbor or farmer who will use. Try advertising the availability of the wood preservative in the local feedstore or grange.

(3rd BEST or BEST IF BANNED) Store in a safe place for a household hazardous waste collection day. **DO NOT** burn wood treated with preservatives.

Alternatives:

- Choose cedar as it contains natural resins that prevent decay in the presence of fungi or insects.
- Choose borax-based wood preservatives.
- In general, take the time to choose the least toxic product for the job you need to do.

Poison Control Centers:

Central Washington	509-248-4400 (Toll-Free)1-800-572-9176
Seattle	206-526-2121 (Toll-Free)1-800-732-6985
Spokane	509-747-1077 (Toll-Free)1-800-572-5842
Tacoma	206-594-1414 (Toll-Free)1-800-542-6319

Section 4- Contacts For More Information

Federal Agencies:

Consumer Product Safety Commission
909 First Ave., Seattle, WA 98104
Telephone #: 206-442-5276
Toll-free #: 1-800-638-2772
for product information

Environmental Protection Agency
1200 Sixth Ave., Seattle, WA 98101
Telephone #: 206-442-1918
for toxic substances and pesticides information
Toll-free #: 1-800-858-7378 for pesticide information clearinghouse

Washington State Agencies:

Chemical and Plant Services
Department of Agriculture 406
General Administration Bldg.
Olympia, WA 98504-0641
Telephone #: 206-753-5063 for pesticide regulations

Hazardous Substance Information Office
Department of Ecology
Mail Stop PV-II Olympia, WA 98504-8711
Toll-free #: 1-800-633-7585
for information on household hazardous waste disposal and less toxic alternatives

Recycling Hotline
Department of Ecology
Mail Stop PV-11
Olympia, WA 98504-8711
Toll-free #: 1-800-RECYCLE
for recycling information

Worker Right to Know Program
Department of Labor and Industries
Mail Stop HC-101 Olympia, WA 98504
Toll-free #: 1-800-423-7233
for information on hazardous chemicals in the workplace

Toxic Substances Section
Department of Social & Health Services
Mail Stop LD-11
Olympia, WA 98504
Telephone #: 206-586-4501
for health effects of chemicals

Puget Sound Water Quality Authority
217 Pine St., Suite 1100
Seattle, WA 98101
Telephone #: 206-464-7320
Toll-free #: 1-800-54-SOUND for information on water quality and pollution in Puget Sound

Local:

Health Department/District Office #

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Cooperative Extension Service Office #

_____

Conservation District Office #

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Additional Resources

The following resources contain a wealth of information about household hazardous wastes, health effects of household chemical products, less-toxic and non-toxic alternatives to household chemical products, and safer alternatives to commercial pesticides. These resources were invaluable in preparing this publication.

Artist Beware: The Hazards and Precautions in Working with Art and Craft Materials. Michael McCann. Watson-Guptill Publications, N.Y. 1979.

Bug Busters: Getting Rid of Household Pests Without Dangerous Chemicals. Bernice Lifton. McGraw-Hill, N.Y. 1985.

The Encyclopedia of Natural Insect and Disease Control. Roger B. Yepsen, Jr., ed. Rodale Press, Emmaus, PA. 1984.

Hazardous Wastes from Homes. Enterprise for Education, Inc., Santa Monica Mall, Santa Monica, CA 90401 1986.

Home Safe Home: An Educational Open House. Western Washington Toxics Coalition, 4512 University Way N.E., Seattle, WA 98105.

Making the Switch: Alternatives to Using Toxic Chemicals in the Home. Golden Empire Health Planning Center, P.O. Box 649, Sacramento, CA 95812. Feb., 1988.

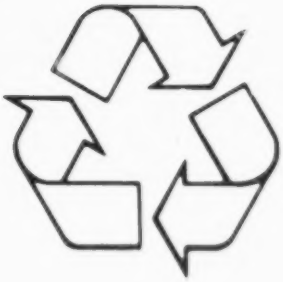
The Natural Formula Book for Home and Yard. Dan Wallace, ed., Rodale Press, Emmaus, PA. 1982.

Nontoxic and Natural: How to Avoid Dangerous Everyday Products and Buy or Make Safe Ones. Debra Lynn Dadd. Jeremy P. Tarcher, Inc., Los Angeles, CA. 1984.

The Nontoxic Home: Protecting Yourself and Your Family from Everyday Toxics and Health Hazards. Debra Lynn Dadd. Jeremy P. Tarcher, Inc., Los Angeles, CA. 1986.

Toward Hazardless Waste: A Guide for Safe Use and Disposal of Hazardous Household Products. Municipality of Metropolitan Seattle and the Seattle-King County Department of Public Health. 1985.

Washington Department of Ecology
Hazardous Substances Information Office
1-800-633-7585



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